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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------|------------------|
| 10/710,675   | 07/28/2004  | Toshiharu Furukawa   | BUR920040116US1      | 4310             |
| 30449  | 7590        | 06/02/2005           | EXAMINER             |                  |
| SCHMEISER, OLSEN + WATTS<br>3 LEAR JET LANE<br>SUITE 201<br>LATHAM, NY 12110 |             |                      | CHAUDHARI, CHANDRA P |                  |
|  |             | ART UNIT             |                      | PAPER NUMBER     |
|  |             |                      |                      | 2891             |

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                     |
|------------------------------|-------------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b>        | <b>Applicant(s)</b> |
|                              | 10/710,675                    | FURUKAWA ET AL.     |
|                              | Examiner<br>Chandra Chaudhari | Art Unit<br>2891    |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11 March 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 19-32 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 July 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
  - a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____.   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7-28-04, 8-9-04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____.                                   |

Applicant's election with traverse of claims 1-18 in the reply filed on March 11, 2005 is acknowledged. The traversal is on the ground(s) that the search and examination could be made without serious burden. This is not found persuasive because according to MPEP 806.05(f), only one-way distinctness needs to be shown, and searching separate classes is clearly a burden.

The requirement is still deemed proper and is therefore made FINAL.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, step (c), there is no antecedent basis for "said first and second gates segments" , and "gates" should be "gate".

In step (d), there is no antecedent basis for "said first PFET and said first NFET".

In step (d), there is no antecedent basis for "said second PFET and said second NFET".

In claim 13, line 3, there is no antecedent basis for "said sidewall layer".

In claim 16, line 4, "step (f) is performed after step (e)" is repeated and should be deleted.

In claim 17, line 3, there is no antecedent basis for "said insulating capping layer".

In claim 18, line 10, "secondPFET" should have a space between the words.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Noda – US 6,512,299.

Noda (Figs. 2-3(f) and text in col. 5, line 1 to col. 6, line 8) discloses the claimed invention by forming a polysilicon line 22 with sidewalls, gate dielectric 13, insulating sidewalls 15, contacting doped silicon region 17, silicide layer 23.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noda and Jung – US 6,335,279.

Noda is applied as above and does not disclose the polysilicon doped N-type or P-type nor an insulating capping layer over the top surface of the polysilicon. Jung (Figs. 3C-3F and text in col. 6,

line 15 to col. 7, line 12) teaches that polysilicon 108 is doped, and capping layer 112, which has been simultaneously removed with the polysilicon.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to dope the polysilicon as taught by Jung in Noda's process to form a conductive layer of the proper resistivity, and a capping layer to protect the lower layers and prevent current leakage.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Son - US 6,066,534 describes gate electrodes with spacers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandra Chaudhari whose telephone number is 571-272-1688. The examiner can normally be reached on Mon - Fri (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chandra Chaudhari  
Primary Examiner  
Art Unit 2891

*C. Chaudhari*  
Chandra Chaudhari  
May 27, 2005